

THE CONSUMER VIDEO-EDITING REVOLUTION

Intel® multi-core processors and streamlined workflows bring HD video editing home

The line between consumer and professional content-creation tools continues to blur thanks to advances in processor, storage, and video technologies. Today's video and still cameras, cell phones, and computers all let you shoot and store video digitally. User-friendly consumer video-editing software such as Avid's Pinnacle Studio* family of products and Corel VideoStudio* make it easy for anyone to create great-looking HD movies, complete with Hollywood-style transitions, effects, sound, and animation, at home using off-the-shelf PCs equipped with Intel® Core™ processors.

Avid's Pinnacle Studio product line consists of Studio HD, Studio Ultimate, and Studio Ultimate Collection. Building on Studio HD as a foundation, Studio Ultimate and Ultimate Collection provide additional functionality through plug-ins by Red Giant. These plug-ins enable users to create advanced effects typically associated with Hollywood productions, such as video with a

cartoon look, lens flares, special film looks that recreate popular visual styles, and more. With release 14, the Studio line is even more user friendly, thanks to a newly designed drag-and-drop user interface. And because Avid engineers have been collaborating closely with Intel to tune and optimize their code to take advantage of all that Intel® processors have to offer, Studio products are more responsive than ever, whether they're run on

an Intel® Core™2 Duo processor or on an Intel Core™ i7 processor Extreme Edition.

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— Jan Piros, Product Manager,
Corel VideoStudio Pro

Corel VideoStudio Pro X3 enables enthusiasts to create professional-looking productions in a simplified and streamlined environment that combines



video editing, media authoring, and real-time effects, as well as DVD and Blu-ray* burning. Other features include:

- Professionally designed project templates by RevoStock to help jump-start productions.
- NewBlue*FX filters to easily add advanced, keyframeable effects. For example, RotoSketch turns video segments or stills into simulated drawings.
- New multi-track overlay effects and enhanced title effects to merge graphics and video content.
- A Mood Mapping music tool from SmartSound to match the style and mood of a project's soundtrack and video.

And thanks to optimization for high-powered Intel® processors, including the Intel® Core™ i7 processor, Corel VideoStudio Pro X3 performs many common tasks more than twice as fast as the previous version. With 2nd Generation Intel® Core™ processors (formerly code-named Sandy Bridge), it will be even faster.

Storytelling in the Time of YouTube*

Informed by television and online video-sharing sites such as YouTube* and Vimeo*, consumers know that it's possible to make affordable, cool videos. Many, however, are put off by a process they perceive as being overly complicated.

Video editing is essentially a straightforward process that starts with pictures and sounds that, when arranged, tell a story. Video professionals use daunting technical terms to describe the process—preproduction, acquisition, capture, post-production, and delivery. In lay terms, preproduction simply means planning. Acquisition means taking pictures, shooting video, and recording sound. Post-production refers to the editing and arranging phase. And delivery is just what it sounds like—the finished story gets sent out to the world.

Within each phase of the video workflow, even scarier techno babble lurks:

- Video and still cameras record pictures and sound in various “codecs” and “formats” with techie names such as MPEG-4 Part 10, H.264, AVI, AAC, and AVCHD.
- The vocabulary of editing uses terms such as “transitions,” “dissolves,” and “cross-fades.”
- Title graphics use “fonts” of varying “point sizes” that can be “kerned.”
- Sound gets “normalized,” “EQ'd,” and otherwise “processed.”
- Music can be “quantized.”

The jargon is as endless as it is seemingly intimidating.

“One of the challenges,” said Jan Piros, who leads Product Management for Corel VideoStudio Pro, “is making the complexity and sophistication of what's going on under the hood invisible to

VIDEO-EDITING JARGON DECODER

AAC:

Advanced Audio Coding is an audio format used by many popular portable consumer audio devices including the Apple iPod*. AAC is the successor to the MP3 format.

AVCHD:

Advanced Video Coding High Definition is a video recording format compatible with Blu-ray* Disc and used by Sony, Panasonic, Canon, and JVC camcorders.

AVI:

Audio Video Interleave is a format that can hold both audio and video information.

Codec:

A combination of the two words that describe its function: “COmpression” and “DECompression.”

Cross-dissolve:

A common type of transition in which the tail end of one clip fades out (turns invisible), revealing the next clip as it fades in.

Cut:

The most basic transition where one clip or scene abruptly ends and the next begins.

Dissolve:

A transition in which one scene fades out to reveal the next.

DV:

A standard definition digital video recording format.

Effects:

Filters and other processes that change the appearance or sonic characteristics of content.

EQ:

Equalization, a process that lets you adjust the highs, lows, and mid-range frequencies that affect the tonal characteristics of a sound.

H.264:

A scalable video codec also known as AVC (Advanced Video Coding) and MPEG-4 Part 10.

HDV:

A high-definition video-recording format that uses MPEG-2 compression to fit HD content onto the same DV or MiniDV tapes originally developed for standard definition recording.

Keyframing:

A technique used to record animation and effects in which a single frame (for example, a keyframe) defines the starting and ending point of any smooth transition.

Lens flare:

An optical phenomenon that occurs when a glass lens is pointed at a bright light source.

Normalize:

An audio process that adjusts the relative volume of a sound recording.

Quantize:

A process that aligns frequencies or beats to a precise setting. Used to correct out-of-tune singers or offbeat rhythm.

Transition:

What happens between clips or scenes in a video or film.

users. Modern camcorders, point-and-shoot still cameras, and DSLRs give people the ability to shoot very high-quality HD video, but many consumers don't understand the nuances of all the different formats. Our goal is to streamline the workflow, so people can start being creative immediately."

Bringing media—pictures, video, sound, music—into consumer video-editing software typically involves one of two processes: capture or import. Capturing video involves connecting a device such as a video camera to a piece

additional hardware. But consumer video-editing software's real power comes from support for new, so-called "file-based" formats that store video digitally. Cell phones and other mobile devices, digital still and video cameras, and webcams are all examples of devices that support file-based video recording.

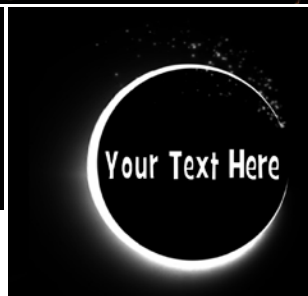
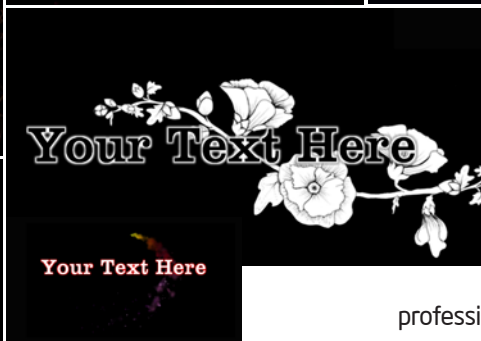
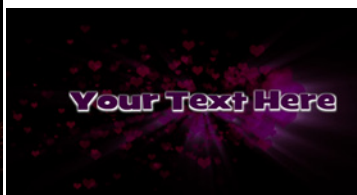
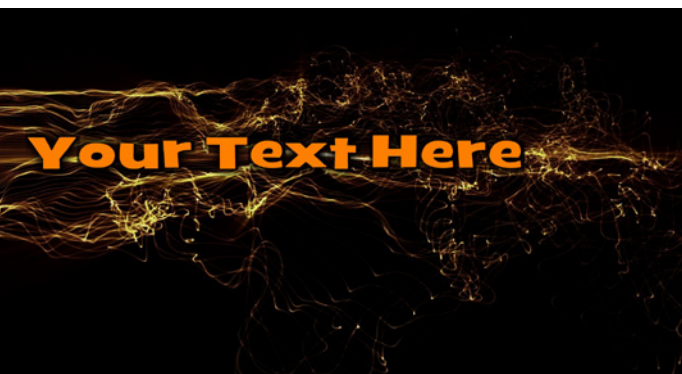
Drag-and-drop interfaces let users grab photos, video, music, and sound and bring them into their editing project. From there, wizards walk users through the editing process by automating tasks that would otherwise be time consuming.

footage that were shot, for example, when the camera was pointing at the floor.

Similarly, in Corel VideoStudio Pro, serious enthusiasts can use Express Edit mode to quickly create a "rough cut" (or preliminary version) that can be refined later with advanced editing tools.

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— Markus Duerr, Director of Product Management, Avid Pinnacle Studio



of external hardware and playing the video. The hardware box takes care of converting the video and sound into a format the computer can understand. Importing video and sound simply means moving a digital file from whatever device it was recorded on—say a CF memory card, a hard disk drive, or a DVD—to the computer's file system.

Both Avid's Pinnacle Studio HD and Corel VideoStudio Pro can capture video from older analog camcorders that record on VHS or 8 mm tapes and newer tape-based digital formats such as DV, HDV, and Digital8 over IEEE 1394 (Apple FireWire*) or USB connections with an assist from

Piros elaborated, "We have a template wizard that allows users to apply professional quality effects to get transitions like turning the pages of a book or to create lower-thirds graphics."

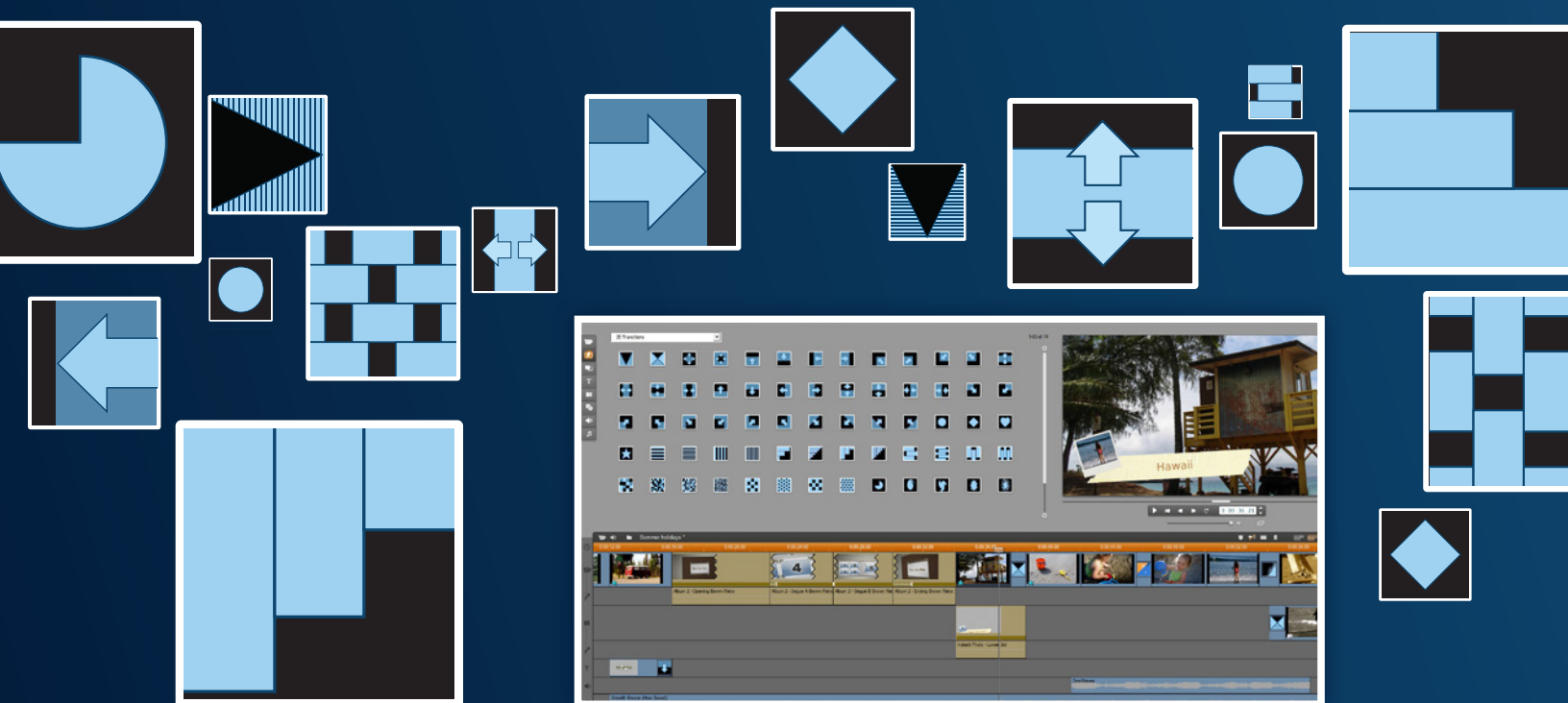
Taking ease-of-use a step further, using Smart Movie—one of the Smart Tools in Avid's Pinnacle Studio—a user can simply select footage and stills, pick a soundtrack, choose a style, and then hit a button. Studio automatically edits the video, detecting the beats of the soundtrack and cutting the video accordingly. Fast-paced music produces fast-paced video. The software actually recognizes objects in the video, so the end product focuses on scenes with people in them, eliminating portions of the

In Avid's Pinnacle Studio, prebuilt content templates called Montage Themes provide fast access to Hollywood-style transitions and animations that add professional polish to videos. In Corel VideoStudio Pro, professionally designed project templates by RevoStock can quickly turn video clips into polished movies complete with Hollywood-style titles, transitions, pans and zooms, credits, and more.

For users who like to dabble, Studio HD supports stop-motion capture so, for example, successive pictures shot with a still camera can be played back fast enough to produce home-grown animations. And to help smooth out video that is shot with handheld cameras and cell phones, Studio HD includes image stabilization technology borrowed from Avid's professional video-editing product line.

Sharing Finished Videos

Both Pinnacle Studio and Corel VideoStudio Pro make sharing finished videos easy with the ability to, for example, burn a DVD, output an



Internet-friendly file for viewing on Facebook*, upload straight to YouTube or Vimeo, or export just the soundtrack as an MP3 file.

Corel VideoStudio Pro comes with DVD MovieFactory* 7 SE for creating DVDs and Blu-ray Discs complete with Hollywood-style menus, titles, transitions, and effects. In addition, thanks to the ability to burn AVCHD-format files onto regular DVDs, users can save HD movies on DVDRs and view them from a Blu-ray player.

Today, VideoStudio Pro delivers a significant performance boost and fastest-in-class rendering times by leveraging all that Intel multi-core processors, including Intel Core i7 processors, have to offer. According to Corel, performance is what really matters to users: They want to mix and match formats freely on the timeline and still be able to play back the project smoothly. Enhanced Smart Proxy editing takes advantage of both CPU and GPU acceleration, so HD content can be edited as easily and

"HAVING A SINGLE API THAT HELPS US HANDLE LOW-LEVEL CODING FUNCTIONALITY SO WE CAN FOCUS OUR ENGINEERING EFFORTS ON DEVELOPING NEW FEATURES IS ONE OF THE BENEFITS OF THE INTEL® MEDIA SDK." — Markus Duerr, Director of Product Management, Avid Pinnacle Studio

Stepped-up Performance

To take advantage of all this easy-to-use power, users can run Avid's Pinnacle Studio HD on legacy Intel processors, including 1.8-GHz Intel® Pentium® processors. Corel VideoStudio Pro requires a 1.8-GHz Intel® Core™ Duo processor. For best performance, especially when working with modern HD video formats such as AVCHD, Intel Core i7 processors are recommended for both the Avid Pinnacle Studio family of products and Corel VideoStudio Pro.

The entire Studio line is optimized for multi-threaded operation, so that Studio can background-render previews, computing transitions, or effects on a separate computational thread. This lets users see the results of their work in high resolution. The more powerful the system, the smoother the system's responsiveness. More powerful systems can handle full-screen, full-motion 30 frames-per-second HD previews.

smoothly as standard definition footage—even on midrange PCs—by background transcoding project footage to a lower-resolution proxy file.

Corel says that with the next version, VideoStudio Pro will support the 2nd Generation Intel Core processor, boosting performance even further, thanks to its integrated graphics capabilities, increased parallelism, and greater throughput. Effects and transitions will play in real time. The rendering process will be much faster, and the time it takes to save project files will be dramatically improved.

"The 2nd Generation Intel Core processor means one thing for video editing—raw speed. We're working on our next version of VideoStudio that's built to take advantage of all this new chip has to offer," said Piros. ■



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